the Technical Broadcast

Published by the Department of Information Services Spring 1997

NEW ADABAS/CICS PRODUCT RELEASES

by Gayle Huck

Great things are happening in ADABAS and CICS! The CICS/Database technical staff is gearing up to install new releases of ADABAS and CICS products that will improve our environment and make your work a little easier. By the time you read this article, some of the following products will be in place.

ADABAS INSTALLS:

ADABAS Release 6.1.3 is coming! The maximum number of files allowed per database (MAXFILES) will increase from 255 to 5,000 and the maximum number of database IDs (DBID) for ADABAS will increase from 255 to 65,535. These new features cannot be exploited until all of ADABAS's supporting software, such as PREDICT, Natural, etc., can also support these new features. More information on the new enhancements and which products support the new features will be forthcoming in future *Technical Bulletins*.

The following software will be upgraded due to the new release of ADABAS:

ADABAS Native SQL	Data manipulation language for accessing and updating information held in ADABAS
Adaprep	ADABAS interface for COBOL applications
Adastrip	Allows stripping off of selected data from backup tapes

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http://www.wa.gov/dis/CSD/tbfirst.htm#Broadcasts

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NEW ADABAS/CICS PRODUCT RELEASES

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Natural	Fourth generation programming langauge
N2O	Allows movement control of Natural programs from test to production
Predict	Allows creation of ADABAS dictionary and Natural Data Definition Modules
Securitre	RACF interface for ADABAS
Trim	Monitoring tool for ADABAS

CICS INSTALLS:

The following year 2000 compliant software packages are being installed in CICS:

- Assist/GT Release 4.6.4

  Assist/GT is used to create on-line help screens and manuals without any program modifications to new, existing or vendor-supplied CICS applications.

- Playback Release 6.8

  Playback is a mainframe automated testing product, whereby you scan capture actual transactions and build accurate test cases. This product will be used in the Year 2000 Project.

- Xpediter/CICS Release 6.8

  Xpediter/CICS is a CICS debugging tool for COBOL applications. The new release allows debugging of programs residing in the RDSA (READ-ONLY DYNAMIC STORAGE AREA below the 16MB line) and ERDSA (READ-ONLY DYNAMIC STORAGE AREA above the 16MB line). All COBOL applications that do not modify themselves should be compiled and link-edited with the RENT option. CICS will then automatically load these programs into read-only storage which participates in storage protection. Otherwise, application programs are loaded into shared storage where storage protection is not available.

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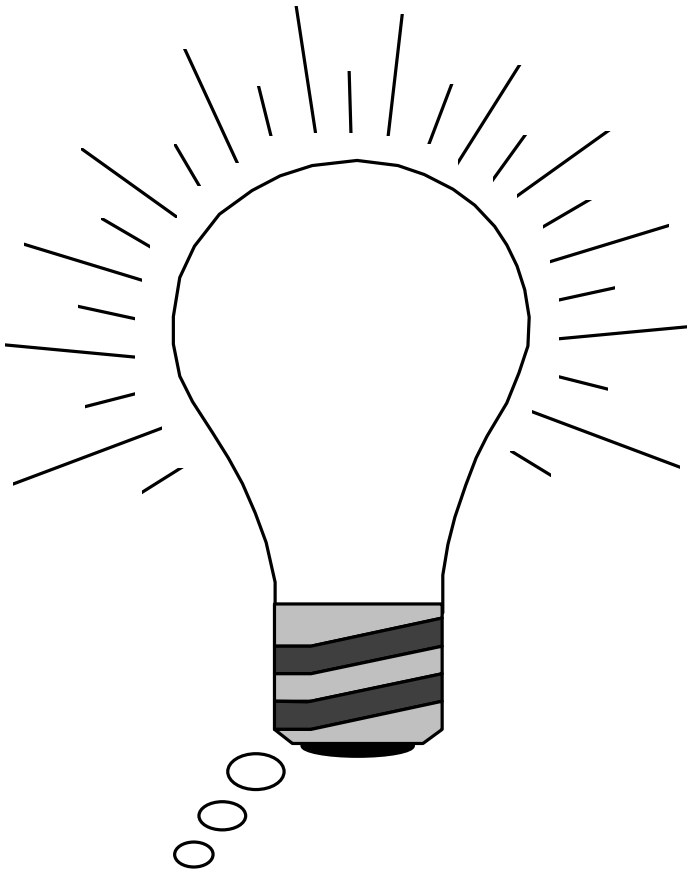
After the installation of Xpediter/CICS Release 6.8 (see *Technical Bulletin 1.2.3.24*, published 03/07/97), storage protection for REENTRANT programs will be turned on in all test regions. This parameter is already set in production CICS regions. There are two other storage protection features of CICS/ESA Release 4.1 that will be turned on (see *Technical Bulletin 1.2.3.23*, published 03/07/97). One feature, storage protection, stops your application program from accidentally overwriting CICS code and control blocks and will be turned on in both test and production CICS regions. The other feature, transaction isolation, stops user applications from wiping out other user applications. However, increased storage use and other performance issues accompany this feature so it will only be turned on in the test and quality assurance regions.

Stay tuned for further enhancements and developments brought to you by the CICS/Database technical staff!



COBOL/370 and LE/370, Article Seven

by Gary Duffield

This is the seventh in a series of eight articles discussing features of the COBOL/370 programming language. This article discusses the MESSAGE HANDLING capabilities that COBOL/370 gains from running under LE/370.

As mentioned in the previous articles, messages are collected into libraries and are associated with condition tokens. The facility ID field from the token is used to identify which member of the library to access and the message number field is used to identify a unique message in that member.

For any facility ID supplied by IBM (CEE for LE/370, IGY for COBOL/370), there are associated messages already in the library. So, it is easy to generate a message for any FEEDBACK CODE (FC) you might get from a Callable Service:

```
CALL 'CEEGTST' USING HEAP-ID, STORAGE-NEEDED,
                     STORAGE-ADDRESS, FC.
IF NOT CEE000
        CALL 'CEEMSG' USING FC, DEST, FC
END-IF
```

In this example, we check the FC from a 'get storage' call. If it isn't all binary zeros (the value associated with the 88 level 'CEE000'), we then invoke the Callable Service CEE Message to turn the FC into an associated message. The message is written to SYSOUT by default, but this can be changed by the MSGFILE run-time option. The DEST parameter must always have a value of '2.' So why is it there? Don't know.

The net result is that something like the following message (depending on the error) shows up in the SYSOUT dataset:

CEE0808S Storage size in a get storage request or a re-allocate request was not a positive number.

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Assuming we have created a library of messages for the facility DIS, we can use this same logic in our SAMPHAND handler from our last article. Remember, it gets invoked by the Condition Manager and receives a condition token. This token could be the one ORIGPGM signals when it sees that the ID-NO field was incorrect. If so, the token will have a facility ID of DIS and a message number of 0123.

The logic in SAMPHAND fixes the ID-NO field and resumes execution. It could be modified to send a message, too. All that has to be added is:

```
CALL 'CEEMSG' USING CONDITION-TOKEN, DEST, FC
```

LE/370 will decode the facility ID and message number from the token and go look for a DIS message member and find message 0123, which it will send to the message file. So something like the following shows up:

DIS0123 Invalid ID-number changed.

If you would like to include some information in the message, like what the bad ID-number was and what it was changed to, this can be done by using Instance Specific Information (ISI).

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First, the 0123 message in the DIS member in the message library has to be created with insertion points for the ISI. Let's say DIS0123 message was created with two: one for the bad ID-number and one for the good one.

DIS0123 Invalid ID-number: {insertion 1} changed to: {insertion 2}

Now we need to build the message insertion information into the ISI portion of the token:

```
01 INSERT-ID                    PIC S9(9) BINARY.
01 ISI-DATA.
       05 ISI-LENGTH             PIC S9(4) BINARY.
       05 ISI-TEXT               PIC X(80).
...
MOVE 1 TO INSERT-ID
MOVE BAD-ID-NUMBER TO ISI-TEXT
MOVE LENGTH OF BAD-ID-NUMBER TO ISI-LENGTH
CALL 'CEECMI' USING CONDITION-TOKEN, INSERT-ID, ISI-DATA, FC.
MOVE 2 TO INSERT-ID
MOVE CORRECT-ID-NUMBER TO ISI-TEXT
MOVE LENGTH OF CORRECT-ID-NUMBER TO ISI-LENGTH
CALL 'CEECMI' USING CONDITION-TOKEN, INSERT-ID, ISI-DATA, FC.
```

We use the Callable Service CEE 'CopyMessageInsert'. The INSERT-ID tells it which insertion point in the message to associate the text with. The ISI-LENGTH tells it how long the message insert text is. And the ISI-TEXT is, of course, the data to insert into the message. This sequence of instructions is building up a value for ISI-INFO in the condition token.

Now when we call CEEMSG, instead of ISI-INFO being 0, it will have the information built by CEECMI that will result in the message looking something like this:

DIS0123 Invalid ID-number: 999999999 changed to: 000020938

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COBOL/370 and LE/370, Article Seven

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So, how do you build these message libraries? Here is an overview:

The message itself is written using specific macros. These are then run through a program that generates two outputs: a copybook containing definitions of the tokens associated with the messages and source which must be assembled and linked to produce the message member.

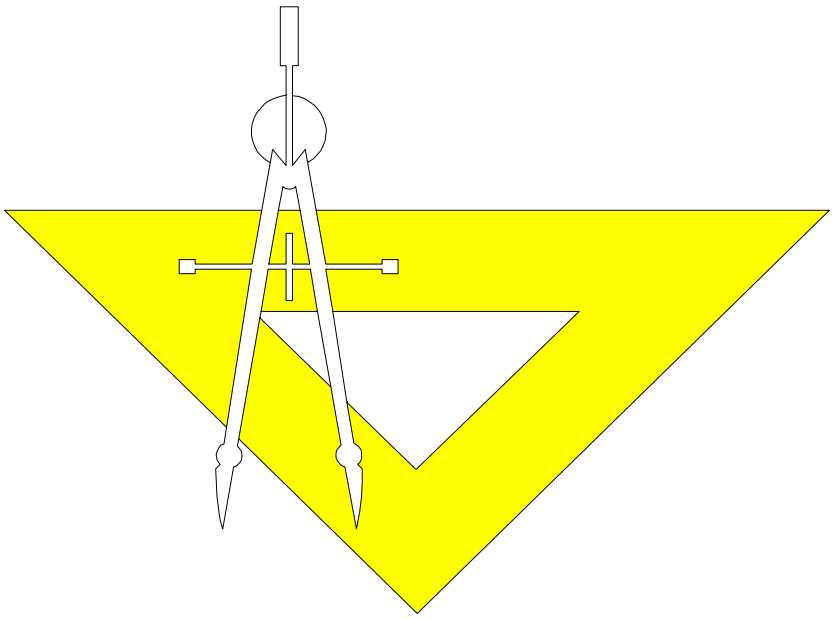
Then another assembler macro which must be updated and assembled, points to the message member. This is the message table, or a directory to the messages.

Typically, message creation and maintenance is centralized with one or two people in the shop. This ensures uniformity and reliability in the messaging service behavior.

More information on MESSAGE HANDLING can be found in:
IBM SAA AD/Cycle Language Environment/370 Programming Guide (*SC26-4818*)

The remaining article of this series will be published in the next DIS *Technical Broadcast.*

If you have any questions about these articles, please contact Gary Duffield through the DIS Help Desk at (360) 753-2454. If you would like to obtain a copy of all eight articles, contact Charie Martin at (360) 902-3112.



The New ISPF Object/Action Workplace

by Judy Holm

The ISPF Workplace is a new option in OS/390 ISPF, available with the OS/390 operating system. The ISPF Workplace is an object/action interface to most ISPF functions. The basic concept of object/action is to input an object (ISPF library, data set name, DSLIST level, workstation file, etc.) and then select an action to perform on the object. To access the Workplace from the S/390 system, enter PDF at the DIS main menu, then select option 11.

The first step in using the Workplace is to specify the particular object on which an action is to be performed (for example, a sequential data set named YOURID.SOURCE.DATA). Object specification takes place on the Workplace entry panel and can be directly entered or selected from a referral list.

After you select the object you want to work with, choose the action to perform on it. You can select an action by making a choice on an action bar or by using a command.

Entering Objects

When you first enter the Workplace, the entry panel that appears is called “ISPF Workplace.” It is possible to display this panel in two distinct modes called “views”: the Library View or the Data Set View.

- The Library View panel has the words "Library View" as a heading just above the referral lists in the lower portion of the screen. This view enables you to work with ISPF library concatenations and library lists.

- The Data Set View panel has the words "Data Set View" as a heading just above the referral lists in the lower portion of the screen. This view enables you to work with data set lists, sequential files, or single partitioned data sets.

You can choose to work with either entry panel view by using the command LISTVIEW, or the function key ChgView (PF11) to toggle between the two panels.

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The New ISPF Object/Action Workplace

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Example of ISPF Workplace in Library View

```
File  View  Options  Space  SuperC  Test  Help
------------------------------------------------------------------------
 Smart Action                ISPF Workplace
 Action ===>                                          Scroll ==> CSR

 ISPF Library
    Project  . . . YM00155
    Group  . . . . MISC     . . .          . . .          . . .
    Type . . . . . CLIST
    Member . . . .              (Blank or pattern for member action list)

 ISPF Referral lists for object selection
    Library View   Action    #1-8=Retrieve  Entry  DL=DSLIST  /=Open List
    REFLIST  . . .           Last 8 Libraries referenced     Dynamic list
    **End**
```

Example of ISPF Workplace in Data Set View

```
File  View  Options  Space  SuperC  Test  Help
------------------------------------------------------------------------
                           ISPF Workplace

Smart Action
Action ===>                                           Scroll ==> CSR

Data Set, DSLIST Level, or Workstation File
   Object Name . . . . 'YM00155.MISC.CLIST(LOGONV)'
   Volume Serial . . .         (For actions that require a volume serial)

ISPF Referral lists for object selection
    Data set View  Action   #1-30=Retrieve  Entry  DL=DSLIST  /=Open List
    REFLIST  . . .          Last 30 Data sets referenced     Dynamic list
    **End**
```

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The New ISPF Object/Action Workplace

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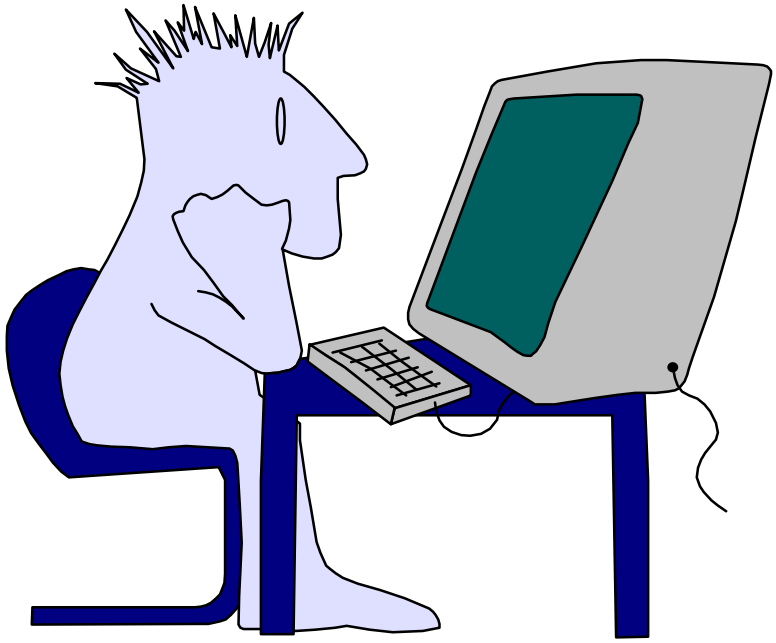
Referral Lists

All data sets and libraries referenced during an ISPF session are appended to the referral lists. You can use the input fields next to the referral lists to access a referral data set in one of the following ways:

- Enter a slash (/) to display the personal data set list or library list (depending on the selected view).
- Type **DL** and press Enter. This builds a DSLIST based on entries in the personal data set list, personal library lists, or Reflists.
- Enter a library entry number (from 1 to 8). If you know the list numbers of your libraries, you can type the number in this field and press Enter. ISPF retrieves the respective library entry from the library reference list.
- Enter a data set entry number (from 1 to 30). If you know the order of your data sets, you can type the number in this field and press Enter. ISPF retrieves the respective data set entry from the data set reference list.



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The New ISPF Object/Action Workplace

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Entering Actions

After you select the object you want to work with, choose the action to perform on it. You can select an action by making a choice on an action bar or by using a command.

Workplace Commands

Use the following primary commands in the command area (action line) of the Workplace entry panels.

Command	Description	Valid For
A	allocate	data sets
ACTBAR or NOACTBAR	display or do not display action bar on panel	action prompt
AP	allocate	action prompt
B	browse	members and non-PDS data sets
C	copy	members and non-PDS data sets
COLOR	global color change	action prompt
CUAATTR	CUA attributes	action prompt
D	delete	members and non-PDS data sets
DF	delete	data sets
DL	DSLIST	data set name level
DP	delete	action prompt
DVT	VTOC summary	data volume
E	edit	members and non-PDS data sets
G	reset member statistics	members
I	full information	data sets
ICS	ISPF command shell	action prompt
IP	information	action prompt
J	submit	members and non-PDS data sets
K	catalog	data sets
KEYLIST	keylist utility	action prompt
L	print data set	data sets
LOCATE, LOC, or L	find a specified referral list in the list of referral lists	referral lists
LP	list	action prompt

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The New ISPF Object/Action Workplace

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Command	Description	Valid For
LV or LISTVIEW	list view	action prompt
M	move	members and non-PDS data sets
ML	member list	partitioned data sets
N	rename	data sets
O	open	members and non-PDS data sets
OPD	personal data set lists	referral lists
OPL	personal library lists	referral lists
P	print	members and non-PDS data sets
PDL	print data set list	data sets
PP	print	action prompt
PSCOLOR	CUA attribute utility	action prompt
PVT	print VTOC information	data sets
Q	VSAM	data sets
R	rename	members and non-PDS data sets
RP	rename	action prompt
S	short information	data sets
SC	SuperC	data sets
SCE	SuperC extended	data sets
SELECT, SEL, or S	select a specified referral list in the list of referral lists	referral lists
SETTINGS	ISPF settings	action prompt
SF	SearchFor	data sets
SFE	SearchFor extended	data sets
T	TSO command	members and non-PDS data sets
U	uncatalog	data sets
V	view	members and non-PDS data sets
X	print data set index	data sets
Z	compress	data sets
= (equal sign)	repeat last command. If no previous action, view is the default.	members and non-PDS data sets

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The New ISPF Object/Action Workplace

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Workplace Action Bar

Most of the primary commands are available from the Workplace action bar. The Workplace action bar makes the following choices available.

Choice	Description
File	List objects, edit, browse, view, delete, rename, move, copy, reset member statistics, submit JCL, print information, enter TSO commands, and exit Workplace.
View	Switch between Data Set View and Library View. Sort the reference lists by name, description, creation date, or reference date.
Options	Pull-down menu for Workplace and ISPF settings.
Space	Allocate, compress, catalog, or uncatalog a data set. You can also get information about a data set.
SuperC	Access SuperC compare and search dialogs for your data sets. The data set you specify on the Workplace panel is automatically filled in the SuperC dialog you choose.
Test	Access to the ISPF services that help you test dialogs. For more information, refer to the *ISPF Dialog Developer's Guide and Reference*, and the *ISPF Edit and Edit Macros* manual.
Help	Pull-down menu for the program tutorials.

Example of using ISPF Workplace

Here is an example of using the Workplace to copy a sequential data set into a member of a concatenated ISPF Library. Use the Copy action against the sequential data set object.

1. Go to the Workplace option (Option 11 on the main menu).

2. Use the PF11 key to toggle to the data set view. In the Workplace, you have a choice of working from a data set list or issuing commands against a single data set.

NOTE: If you are list-oriented, you can specify a wildcard pattern in the Object Name field (such as, 'USERID.*') to generate a data set list containing the sequential data set.

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The New ISPF Object/Action Workplace

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If you prefer to specify the sequential data set directly, you can type it into the Object Name field either with or without single quotes (that is, SEQ.FILE or 'USERID.SEQ.FILE').

In either case, the following accelerated methods are alternatives to remembering and typing the input:

- Use the REFLIST in the bottom half of the Workplace to retrieve a recently referenced data set name or pattern.

- Use the recall key PF5 to retrieve a recently referenced data set name or pattern.

- Use the personal list in the bottom half of the Workplace to retrieve a previously created data set name or pattern.

3. Now that the Object has been specified, you must specify the Action. In this example, the action is COPY. You can do this several ways, depending on your preferences.

- If you are in a list, you can use the CO line command to copy the data set, or you can put a slash (/) in the line command area to be prompted with a list of available commands to select.

- If you specified the "from" data set directly (not from a list), you can use the Copy pull-down choice from the FILE action bar choice, or you can type the C fast path command in the Action ==> field to copy the data set.

In either case, a pop-up panel prompts you for the target data set, member name, and other parameters.

The more familiar you become with the Workplace, the easier it will be to use.

More information can be found in the *ISPF User's Guide* (*SC28-1239*) which can be ordered directly from IBM by calling 1-800-879-2755.

PC/SAS Software: Get it from the Net!

by Janice Engle

PC/SAS for Windows and PC/SAS for OS/2 are downloadable from the Department of Information Services (DIS) Computer Services Division home page. Getting it is as easy as filling out one of the electronic request forms available at **http://www.wa.gov/dis/csd/sasprice.htm**. The request form is sent to Janice Engle at DIS (janicee@dis.wa.gov). Your request is confirmed with a reply e-mail or a phone call to clarify any questions. You will then, receive an e-mail containing a temporary logon ID and password (good for three days), specific copy instructions, and the current PC/SAS Setinit.

Here's how the PC/SAS software programs are made available to you:

SAS for Windows and SAS for OS/2 products available from DIS are compressed into individual product files and one large file for each software environment. The large file contains the entire collection of Windows or OS/2 products available from DIS, while the individual product files are the programs necessary for a specific product (meaning, Base, FSP, Graph, Stat, etc.). After the files are compressed, they are converted to executable files. These executable files are the files you copy to your drive of choice. Once the executable file(s) is on your drive, you execute it causing it to expand and create a copy of the original directory structure in a root directory named SASWIN or SASOS2. At this point, to reclaim directory space, it is recommended to delete the executable file. The expanded file should be viewed in the same way you would view a CD-ROM residing in a CD-ROM drive. Meaning, it is a resource you will install PC/SAS from and eventually discard.

The process of acquiring the latest update of PC/SAS through this method is:

1. Copy the executable file to your hard drive.
2. Expand the file using the instructions e-mailed to you.
3. Delete the executable file.
4. Install PC/SAS to the drive and directory of your choice.
5. Confirm the install is good.
6. Delete the expanded file at the root SASWIN or SASOS2.

Thus, ending up with one installed copy of PC/SAS.

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PC/SAS Software: Get it from the Net!

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Directory space can be an issue in choosing this method of acquiring PC/SAS. The size of each compressed file is displayed at **http://www.wa.gov/dis/csd/sasxfer.htm**. It is recommended that you confirm the amount of space you have available before copying a file. Keep in mind that you need enough space for the product file and approximately 65 percent more space to expand each file.

If directory space is a problem, you may use the on-line request form to order PC/SAS in CD-ROM or diskette media. If you don't have internet access, you may send an e-mail or a memo requesting PC/SAS software and licensing to Janice Engle at the address below. Delivery time for orders from SAS is four to six weeks.

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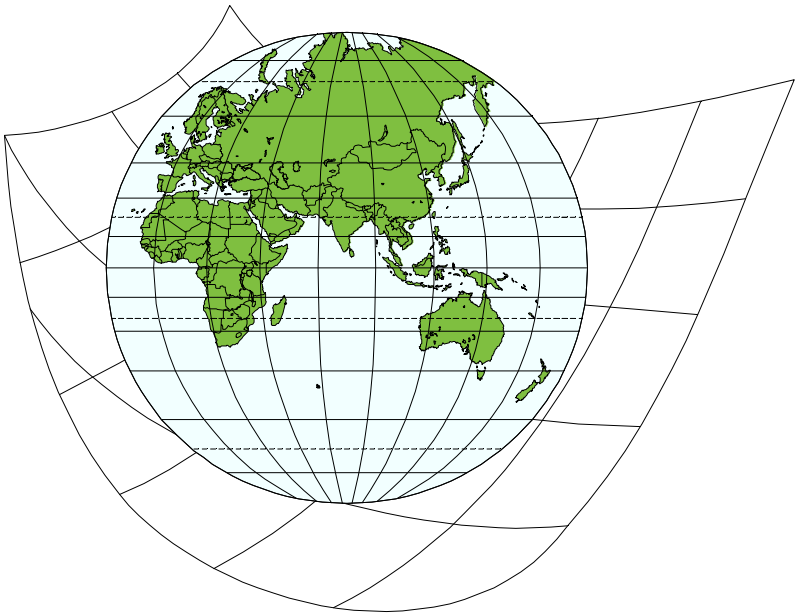

the Technical Broadcast

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